

# Strategic Network Level Mapping of Underground Assets using Ground Penetrating Radar

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## SUMMARY

The commercial, safety and community benefits for using Ground Penetrating Radar (GPR) in the detection of underground assets, in particular utilities, is well proven. Currently most GPR surveys are typically carried out by hand pushed units using either single or dual frequency systems to confirm and/or locate underground assets. Once located, asset locations are marked using spray paint, the GPR images are saved for reporting and sometimes locations are mapped using GPS or other means for further use in CAD or GIS. These surveys are typically independently commissioned to contractors by utilities organisations with information rarely shared between organisations after survey completion. Advanced development of GPR systems now allows for rapid full 3D capture of underground assets using arrays of multi-frequency, multi-polarized antenna GPR towed by vehicles. This rapid capture capability is bringing to the table a case for a more coordinated capture of underground asset location across utility organisations for centralised and coordinated management and improvement of the efficiency of construction activities. The vehicle based GPR underground asset capture capability is towable and compliments the push for above ground asset capture using mobile 3D laser scanning technologies.